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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,432	02/10/2004	Junichiro Sakata	740756-2713	1672

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EXAMINER

LEE, CHEUNG

ART UNIT PAPER NUMBER

2812

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,432

Applicant(s)

SAKATA ET AL.

Examiner

Cheung Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/10/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claim 17 in the reply filed on June 29, 2005 is acknowledged.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on February 10, 2004 was filed before the first action on the merits. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 17, 23, 19, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (U.S. Publication 2001/0006827; hereinafter "Yamazaki").
4. With respect to claims 17 and 23, Yamazaki discloses a method for manufacturing a semiconductor device comprising: depositing an EL material (page 2,

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paragraph 31; page 6, paragraphs 75-79) over a substrate (fig. 7, item 704; page 6, paragraph 76; hereinafter refer fig. 7 for figure's item numbers) by repeatedly moving an evaporation source (705; page 6, paragraph 76) in an X direction and then moving the substrate in a Y direction at regular intervals (page 6, paragraphs 75-79). As Yamazaki discloses, the evaporation source moves repeatedly in one direction to form the thin film over the substrate (page 1, paragraph 14). Also, the substrate is conveyed (page 2, paragraph 32; page 6, paragraph 76) to move perpendicular direction to the moving direction of the evaporation source after formation of each EL materials (fig. 7; page 6, paragraphs 75-79). So, the examiner takes the position that when taking the direction of the evaporation source to be the X direction, then the substrate would be moved in the Y direction. According to figure 7, the evaporation moves in one direction to deposit EL material and then the substrate moves in other direction (page 6, paragraphs 75-79). The substrate moves and stops repeatedly in one direction during the process of EL materials deposition in multiple evaporation chambers (fig. 7). So, the examiner takes the position that it would have been obvious that the substrate movement would be at regular intervals to deposit films in multiple evaporation chambers.

5. With respect to claims 19 and 25, Yamazaki discloses a method for manufacturing a semiconductor device comprising: depositing an EL material (page 2, paragraph 31; page 6, paragraphs 75-79) over a substrate (704; page 6, paragraph 76) by repeatedly moving the substrate in a Y direction at regular intervals (fig. 7; page 6, paragraphs 75-79), but Yamazaki does not disclose expressly making a movement speed of a first evaporation source in an X direction and a movement speed of a second

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evaporation source in the X direction different. According to Yamazaki, the conveyed substrate (page 2, paragraph 32; page 6, paragraph 76) repeatedly moves and stops in one direction for formation of each EL materials (fig. 7; page 6, paragraphs 75-79). So, the examiner takes the position that it would have been obvious that the substrate movement would be at regular intervals to deposit films in multiple evaporation chambers. As Yamazaki discloses in page 6, paragraphs 75-79, there are several different evaporation chambers each having an evaporation source that moves in perpendicular direction to the direction of the conveyed substrate (fig. 7). The layers deposited in different chambers ~~deposits different layers~~ have different characteristics. The examiner takes the position that it would have been obvious that the movement speed between evaporation sources would be different to achieve layers of different characteristic?

6. Claims 18, 20, 21, 22, 24, 26, 27, are 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki, as applied above, in view of second Yamazaki et al. (U.S. Publication 2002/0187567; hereinafter "Yamazaki2").

7. With respect to claims 21 and 27, Yamazaki discloses a method for manufacturing a semiconductor device comprising: depositing an EL material (page 2, paragraph 31; page 6, paragraphs 75-79) over a substrate (704; page 6, paragraph 76) by moving or reciprocating an evaporation source (705; page 6, paragraph 76) in the X direction (fig. 7; page 1, paragraph 14), but Yamazaki does not disclose expressly

depositing EL material over a substrate while moving the substrate in the Y direction at a constant speed.

Yamazaki2 discloses a method of forming a film over a substrate while moving the substrate in the Y direction (page 3, paragraph 56). And it is obvious that the substrate moves in the Y direction at constant speed to form a uniform film thickness.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine Yamazaki2 with Yamazaki to develop the formation of a film over a substrate while moving both an evaporation source and the substrate in perpendicular direction to each other. The motivation for doing so would have been to achieve excellent film thickness uniformity without needing to prolong a distance between the substrate and the evaporation source.

8. With respect to claims 18, 20, 22, 24, 26, and 28, Yamazaki discloses a method for manufacturing a semiconductor device as set forth in claims 17, 19, 21, 23, 25, and 27, but Yamazaki does not disclose expressly wherein the semiconductor device is incorporated into an electronic apparatus selected from the group consisting of a video camera, a digital camera, a goggle display, a navigation system, an audio reproducing apparatus, a laptop computer, a game machine, a mobile computer, a cellular phone, a portable game machine, an electronic book, and an image reproducing apparatus.

Yamazaki2 discloses wherein the semiconductor device (page 9, paragraph 152) is incorporated into an electronic apparatus (pages 9 and 10, paragraphs 152-161) selected from the group consisting of a video camera (fig. 10G), a digital camera (fig. 10B), a goggle display (fig. 10F), a navigation system, an audio reproducing apparatus,

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a laptop computer (fig. 10C), a game machine, a mobile computer (fig. 10D), a cellular phone (fig. 10H), a portable game machine, an electronic book, and an image reproducing apparatus (fig. 10E). Both Yamazaki and Yamazaki² disclose a method of forming light emitting device (EL display device). Since Yamazaki discloses EL display device formation (pages 5 and 6, paragraph 72-84), the examiner takes the position that it would have been obvious that the device made is incorporated into various electronic equipments, as taught Yamazaki² to obtain higher production efficiency.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheung Lee whose telephone number is 571-272-5977. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on 571-272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheung Lee

August 19, 2005



HA NGUYEN
PRIMARY EXAMINER